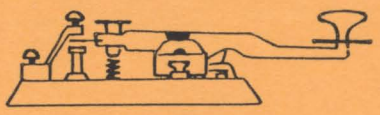
winter 1988

Morsum Magnificat

magazine for morse-telegraphy

nr 10

Morsum Magnificat



1, Tash Place – London, N11 1PA
01-368 4588

MORSUM MAGNIFICAT was first published in Holland, in 1983, by Rinus Hellemons, PAØBFN. Now published from London, it provides international coverage of all aspects of Morse telegraphy, past present and future.

MORSUM MAGNIFICAT is for all Morse enthusiasts, amateur or professional, active or retired. It brings together material which would otherwise be lost to posterity, providing an invaluable source of interest, reference and record relating to the traditions and practice of Morse.

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Cover photo: Message via Sea Scout semaphore and Pony Express, for onward transmission from Morse Telegraph Office. See Timbertown story.

Walter Candler and the CANDLER SYSTEM

Wm. G. Pierpont, NØHFF.

From 1911 until the 1940's the Candler system for learning the telegraph codes was successful and well-known. Walter H. Candler learned the American Morse code and worked for two years as a telegrapher. In 1904 he felt qualified to apply to the Western Union office in Atlanta as a commercial relay operator. He was hired and lasted one day; fired for lack of skill. He was hurt and deeply puzzled: why didn't his two years' experience qualify him? What mysterious ingredient was missing?

Determined not to give up, he took a twelve-hour night shift operator's job with the railroad and began studying and experimenting. By accident he discovered that when he occasionally dozed off over the operating table he could read the fastest code coming over the lines to his sounder. Yet when he was awake and alert he could only catch a word here and there.

Hadn't he put in long hours of practice? He began to suspect that he had missed the mental aspect - that telegraphy was primarily a mental process, not just a physical one. The subconscious, or habit-acting part of the mind must have a major part in it all. With this new vantage point he began teaching himself until he mastered the code and became qualified to teach and help others.

In 1911 he established his "school", teaching by correspondence, first from Chicago, and later from Asheville, NC. He actively continued until his death on April 23, 1940, and for some time after the school continued under the direction of his wife, who had been his student and assistant. His first course, for beginners, was first entitled "Scientific Course of Code Instruction", and later "The Junior Scientific Code Course."

To this he added his "High Speed Telegraphing Course" for those already able to handle twelve words per minute or more. It mainly deleted the ABC's. Otherwise both taught the same fundamentals and

enabled the learners to reach the same goals.

These courses quickly centered upon the International Morse code because of the interest and demand of the rapidly growing new wireless-radio field. Many advanced operators learned both codes. To these he added a typewriting course, the "mill" course.

Normal language

Since the purpose of a code is to communicate in ordinary language, his whole system was oriented to normal language - "straight text" - communicating intelligence. He discouraged the use of "code machines" and scrambled letters and numbers etc. His students were to use an ordinary "straight" key with oscillator for sending practice, and a good receiver capable of listening to well-sent code (press, etc). Great emphasis was placed on receiving practice, and the receiver gave the realistic conditions which the student would meet in actual operating. Understanding communicating was the goal. One had to develop a "receiving sense".

He called his course "scientific" because it concerned the whole person; mind and body, co-ordinating together in a natural way; working with nature, rather than at random or unwittingly against it.

He began with the basics, showing what to do, how to practice for fastest progress, what to practice and when. It is a systematic approach that works. For optimum health he advised deep breathing exercises, drinking plenty of water, reasonable diet and other good living habits.

The student's most important goal is to develop SOUND CONSCIOUSNESS, ie, the ability to read code by sound (listening to it) just as one reads a book by sight. (He makes a sharp distinction between "reading" code, which is understanding by just listening, and "copying" code, which is writing down what is received.) This takes any drudgery out of learning and use.

The beginner's first step in this direction is to form the correct initial impressions, since these are always the strongest and most long-lasting. Any error here becomes a handicap, and those who have begun wrong will have some re-learning to do.

The first aspect is that code must be thought of in terms of sound: eg, the code signal "didah" IS the letter "A", etc. It does not "stand for A"; it is not to be translated but read (heard) as "A". Each character must be drilled in this way until it seems to be "a part of you", so thoroughly learned that it is recognised the instant it is heard. The code signal IS that letter.

Intimately associated with this is the importance of accurate and uniform formation of each character. Irregular lengths of "dahs" and/or spaces between parts of a character - ie, irregular or "sloppy" sending - hinder the subconscious mind from immediate recognition and identification. Listening to poorly sent code hinders rather than helps learning.

(One should not start sending practice too soon - until "timing sense" has been developed.) Formation of habits - for that is what code learning is - is facilitated by exact repetition.

Subconscious mind

It is the mind which is being trained. At first everything must be done consciously and accurately. In the beginning stages the learner will have to consciously count the dits and dahs, whether he is receiving or sending. But as long as it is a conscious process code will be slow. With proper practice and repetition the subconscious mind will take over this burden of counting, and speed will come, faster and faster. A solid foundation must be laid first, and it will take some effort.

WALTER H. CANDLER
Originator of the famous CANDLER SYSTEM and founder of the Candler System Company.

LEARN or SPEED UP YOUR CODE at Home

With

the NEW CANDLER SYSTEM

TRAINS YOU TO MEET NEW CODE SPEED REQUIREMENTS

Obtain Your Amateur or Commercial License in ½ Usual Time With

The New CANDLER SYSTEM Training

Candler advertisement, 1941.

Experience shows that in processes like telegraphy the more the conscious mind is trying to make out or remember while receiving code, the harder the job becomes. That is why poorly learned and poorly sent code strain one. As the conscious mind works harder and harder the subconscious mind becomes less and less receptive, until it may cease altogether. This tends to generate tension, making it harder still.

Two other basic guide-lines are important to good progress. The first concerns practising: never practice when tired: it will accomplish little. Short practice periods of not over 30 minutes at a time - shorter (even as short as five minutes if one tires that soon) if need be - accomplish most. Stop when fatigued. Relax - don't let yourself be rushed.

The second concerns attitude. Always think of code as easy: an "I can do it" approach. Candler recommended that between practice periods one tells oneself "It is easy for me to learn the code." A positive attitude makes learning easier and faster. Along with this one must be patient - learning new habits takes time. Don't try to rush it: allow time and practice to develop natural co-ordination and responsiveness to the sounds.

Learn to read words as words

The BIG thing is to learn to "read" code. The first step is to learn to recognise each code character as an integral unit which IS the letter, number or punctuation mark. To reach this goal the raw beginner will take a few characters at a time, one by one, and as he listens to them being sent will recognise and write them down a letter at a time. He hears, recognises and then writes. Then some words formed from these letters will be sent and he will just listen, even if he cannot mentally put enough of the letters together to form the words sent - at first. This is the beginning of the next step; learning to read words as words.

Candler put strong emphasis - even from the first lessons - on learning to read the 100 most common words. Just as in well-taught elementary reading one first learns to read letters and then spells them out as words, so with code. One is really reading code when one is no longer conscious of the dits and dahs but only of what is being said. (If a highly skilled operator is asked how many dits and dahs comprise a given character he will have to sound it out and count them to answer.) Hearing words by their sound, without consciously spelling them out brings proficiency.

"Practice with the 100 commonest words until you can send and receive them without having to think of how they are spelled. Practice them over and over, concentrating on the sounds of the words, with no thought of dits and dahs or spelling, until they are easy and natural."

Further development of this depends on listening practice, and it will extend far beyond the commonest words to common prefixes and suffixes and many other words, including larger ones - until you can read code like you read print.

"I am acquiring the ability to read words subconsciously now. I find, for instance, that when reading code I know as soon as a word is sent what the word is, although I didn't consciously spell it out to myself as it was coming in. This is the case with several shorter and more common words, and proves that your system is right," wrote one student.

Keep on listening

Learning to receive is the important thing. Listen even though at first you may only be able to make out a character now and then. As you practice listening you will get more and more. Small words will begin to

roll out, it will seem. Before long you will be able to get enough of each sentence to make sense out of it. Some days you will get more than others, but don't let that trouble you - all of us are like that when learning. You will discover that you can read a few words "solid", and then be unable to read anything, other than a letter here or there, for quite a space.

You will have a lot of other experiences which seem strange, but pay no attention to them and keep right on listening as often as you can. It always works - results will speak for themselves. Soon you will be able to catch small words, then longer ones. Keep on!

Any signals that are not immediately clear to you forget and continue to follow the sender. If you miss a word, keep on listening - don't stop to try to figure it out. Let the context help you, just as you do when reading print or talking. Keep the mind on the signals as they are being sent, without tension or strain. And never try to anticipate - just follow.

If anywhere along the line you find weak spots, practice on them until they are strong.

Get "behind"

Lastly, copying. When beginning to learn the characters one will copy them one by one as an aid to learning to identify them with certainty, and to verify correctness. From time to time before one can really read code readily, one may practice copying for short periods. At first this must be letter by letter, spelling everything out consciously. But it must be resisted: instead strive to be writing a letter or two "behind" what is being sent; ie, carrying them in your mind. Unless this is done, one will not progress in copying. Copying letter by letter is a vicious practice that stops advancement. That is why listening and reading without copying is so important for skill.

Get in the habit, as you listen (read), of carrying the letters in your mind, forming them subconsciously into words and sentences without copying anything down. When this can be done at speeds of 15 - 25 wpm, daily copying practice will become beneficial, remembering that copying is incidental to reading. What you can read you can learn to copy down; it will become easy. With practice you will just hear words and write them down without consciously spelling them, and you will make rapid progress. It will become natural and co-ordinated.

Candler's courses were designed to avoid the common obstacles of learning. These obstacles are: 1) lack of, or mis-directed, practice, 2) thinking visually instead of by sound, 3) hesitation over poorly learned signals, causing the next few to be lost, 4) negative attitudes, and 5) looking back over what has been copied.

Know you're right and go ahead

Candler's Junior Course taught the alphabet in the first two

lessons (a lesson a week normally) in the following order:
Lesson 1 - E I S H - T M O - A N W G.
Lesson 2 - D U V J B - R K L F - P X Z C Y Q.

As each group was learned the associated small words, some high frequency ones and also others with the letters learned to that point, were practised; is, see, his, she - to, not, it, me, the, him, this - etc. He advised saying the dits and dahs at first when beginning to use the key. Starting with Lesson 2, not only short words but also short sentences using the letters learned were practised. The aim was smooth, unhurried, working and, for copying, a good and simple writing style.

With Lesson 3 came an analysis of the code alphabet in terms of timing, analysing the letters in the sequence:
E T I M N A B V J G W O D U S H R K L F P X Z C Y Q, tearing them apart and examining the timing. Here also began the first intensive practice on the 100 most common words, a number in each lesson.

Thus his course began and continued on for ten lessons.

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readers' ads

FOR SALE

GW8IH "Superbug" and other keys, as described in this issue of MM. All enquiries to Noel Bevan GW8IH, Gwynfro, Bryngwyn, Newcastle Emlyn, Dyfed, Wales SA38 9LU. Tel: 0239 710841.

WANTED

"Make a Signal" (or similar title?), a history of naval signals. If anyone has a copy but doesn't want to sell it, I would appreciate confirmation of exact title, author, publisher and date published. Tony Smith G4FAI, 1 Tash Place, London N11 1PA. Tel: 01-368 4588.

INFORMATION WANTED

I recently bought a GPO Type 33 landline key, which is a beauty. I am trying to establish the approximate date that this model came into service with the GPO and also its usage. It is a standard straight key with seven terminals and a send/receive switch incorporated. Gus Taylor G8PG, 37 Pickerill Road, Greasby, Merseyside, L49 3ND.

(Deadline for readers' ads in next issue, 15th February, 1989)

REFLECTIONS from Uncle Bas - 6

Too tidy!

I am often reproached for being too clean and tidy. I hate over-loaded tables, untidy book-cases, and dirt on the floor. Fortunately, my wife thinks the same way.

I have always been like this. My mother used to be quite surprised at my shack where every wire was carefully and rectangularly arranged - especially as the rig itself looked like a piece of shabby old junk.

It still does. I have a psychological aversion to Japanese "super-boxes". Of course, the boxes I have got are in a neat row and all the wiring is out of sight....

So - when I had to replace a sick Marconi-man in Hamburg on a Greek boat, the Georgios Sidderatos, I was struck with horror when I entered the radio cabin!

It was one big, unimaginable, neglected, useless heap of rubbish! All my instincts were to clear it out immediately; but it would have been undiplomatic on the first day as the Greek Captain would have left me behind in Hamburg!

Due to dense fog we were delayed for a week on the Elbe and having to be on watch amid this rubbish weighed heavily on me, especially as I found that three-quarters of it didn't work. As a true ham, I felt like a millionaire in a junk shop....

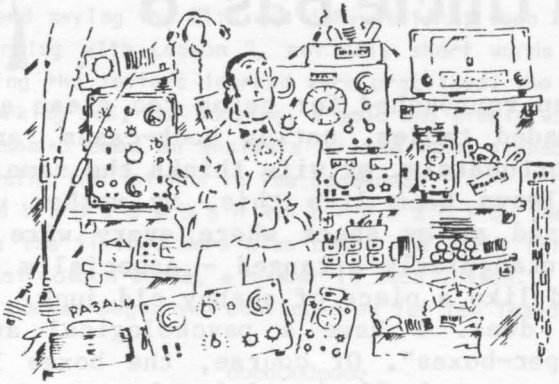
Over the side!

I had to wait until we got to sea before attempting anything. Then I began to throw everything superfluous overboard, empty distilled water carboys, worn-out accumulators for the emergency transmitter, clips of call-sign lists, old maps, telegrams transmitted or received long ago, hup.... away with them!

All this was done very carefully and quietly on the basis of "what you don't know can't hurt you". But the Captain was no fool (most of them aren't, although they seem to be now and then), and after a week he asked me if I would be so kind as to leave something behind in the

radio room. Or was I planning to make it into a ballroom?

My reply, "No problems, Captain", set him at ease, together with the fact that every day he found the world's news in Greek and English on his desk - something he had never experienced before.



.... MILLIONAIRE IN A JUNK SHOP....

Meantime, I used the soldering iron and screwdriver to restore the transmitters and receiver to their former glory. To crown it all, I painted the whole room and polished the brass aerial-feeders until they hurt your eyes to look at them.

Returning to Europe, the "Old Man" was so satisfied by all this that he offered me extra pay to stay on the ship, and he even agreed to my fiance sailing with us to Singapore (where the ship was to be scrapped), as a paying passenger.

The latter seemed a great idea to me, but her parents took a different view (this was in the 1950s).

So all that this goes to prove is that sometimes a success story has a disappointing ending!

Bastian van Es.

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CORRECTION

In the article "Simple Pre-Selector for the HF bands", in MM9, pp 18-20, in Table 1, the diameters for Lk for the 13.8 - 21.5 MHz and 20.0 - 30.0 MHz bands are incorrectly stated. In both cases, "Coil dia. 0.6mm" should read "Coil dia. 6mm."

Just rambling....

KEYBOARDS. There was mixed reaction to Roy Walmsley's Key-tronics, 3, in MM8, relating to Morse keyboards. Some readers found it of great interest while others felt that such a subject should not have appeared in MM at all. There does however appear to be some confusion about the use of keyboards and a belief that little or no Morse skill is needed to operate them. In this connection I feel it might be helpful to quote from The Morseman column of Dr Gary Bold, ZL1AN, in the May 1988 issue of "BREAK-IN", journal of NZART. Gary describes the evolution of keyboards in some detail and the following is but a small extract:

"..... Why did they evolve, and who evolved them? Two types of Hams were mainly responsible. One group were just experimenters, obsessed (as all good Hams should be) in pushing back the frontiers, seeing the production of a Morse keyboard as a challenge to be overcome.

The other group had found that their code reading ability had so far outstripped their sending skill that slow, frustration-filled, 35 wpm QSOs grew increasingly unsatisfying. I became friendly with a group of such operators in 1977, when I operated from Michigan. They were predominantly non-technical and had bought commercial keyboards simply to have more enjoyable chats with each other. Their standard conversational speed (reading, of course, in their heads) was about 65 wpm, but on good nights some would go up to 80.

At first their Morse sounded like the high speed twittering of conversing robots, but after repeated listening I copied some callsigns. When I called them individually they readily changed down to 35 wpm to talk to me. Although I felt rather as if I was conversing with creatures from some higher existence they did not think they were doing anything particularly clever.

One ....told me that after he had bought his keyboard his receiving speed had gone from 35 wpm to 65 wpm in three months. I now think that these people were from that small, exceptionally "Morse-talented", group who find code reading comes easily and have difficulty understanding why others can't do it....."

CHRISTMAS COMES but once a year, and so does the G-QRP Winter Sports - 26th December to 1st January. If you are not already into QRP try turning the power down and join in the big QRP activity of the year. The aim is maximum activity on and around the QRP frequencies, ie 60 kHz up from the bottom of each band except 40m (7030) and 30m (10106). I'm hoping to be on with about 2 watts on most bands. Maybe I'll meet some of you then to exchange the Season's Greetings in person? 73, TONY.

Telegram from Timbertown

Timbertown is an Australian living museum located at Wauchope (pronounced Warhope), 12 miles west of Port Macquarie on the New South Wales coast, which re-creates the living conditions and activities of a 19th century timbercutters' village.

Visitors can see demonstrations of everyday life, including saw milling, bullock teams and wood turning, while a steam train provides transport on a circuit of the entire village. During Bicentennial year, 1988, events have been staged at Timbertown to pay tribute to the work of early Australian pioneers - and during February the theme was "The Australian Connection, 200 years of Communication and Local History".

As part of this celebration Telecom Australia set up a Morse telegraph link from Timbertown, via the Wauchope telephone exchange, to Canberra to enable the Mayor of Hastings Municipality to send a message to the Minister for Transport and Communications.

Members of the 1st Port Macquarie Sea Scouts aboard a police launch semaphored the message to other Scouts on the headland above Oxley Beach, Port Macquarie. It was then relayed by "pony express" to Timbertown, 22 km away, by members of the Wauchope Endurance Riders.

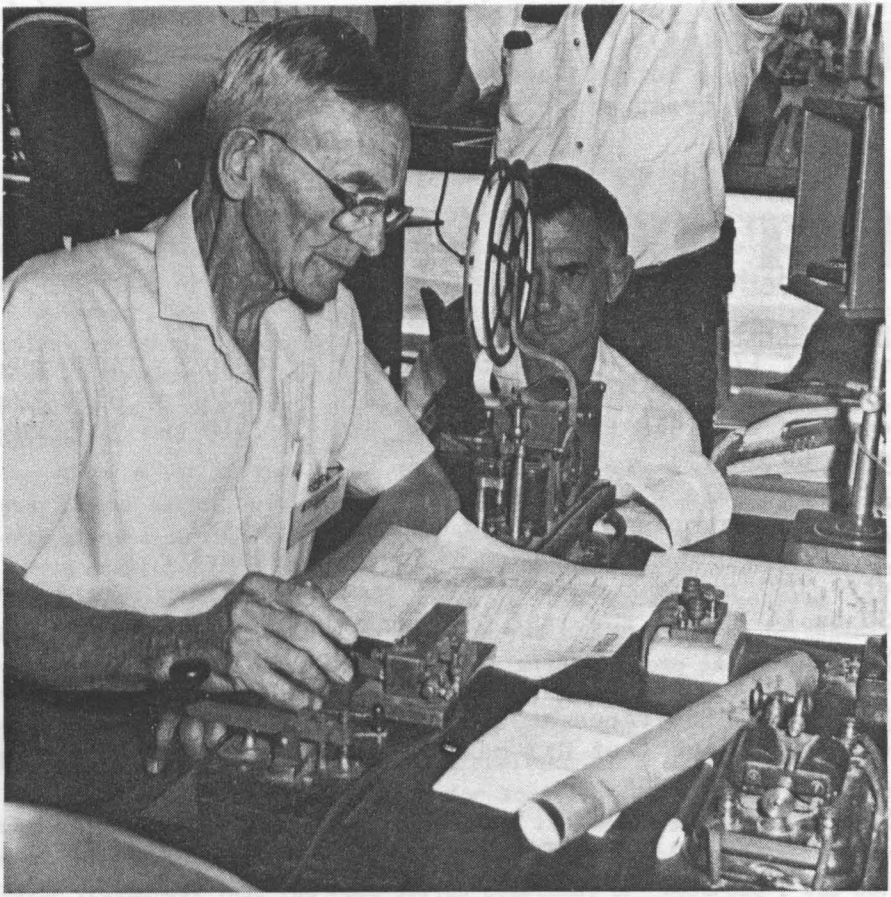
The Morse circuit was manned by members of the Sydney Morsecodians Fraternity, and at Timbertown their President, Gordon Hill, keyed the message to Canberra. Part of the message read:

"Much has been written about drovers, shearers and stockmen. The telegraph men are the unsung heroes who pioneered communications throughout the nation.

"In our Bicentennial year Timbertown and Telecom are proud to recognise the role so capably undertaken by the telegraph operators of our past."

In his reply the Minister said, "Totally agree that pole sinkers and wire stringers who pioneered Australian Telecommunications worthy of greater recognition in the beginning. Telegraphic goodwill to all at Timbertown".

Sydney Morsecodians' President, Gordon Hill, sends the message to the Minister for Transport and communications.



The above details were obtained from a story in Telecom Australia's newsletter "Update New South Wales". John Houlder, of the Sydney Morsecodians, who was involved in setting up the Morse circuit, reports that about a week before the event he had a telephone call from another area of Telecom. They were staging a Heritage exhibition in Sydney Town Hall and asked if they could extend the circuit to include Sydney as well.

"So we ended up with Timbertown, Sydney and Canberra on the one circuit. It was very enjoyable as a number of my old workmates were at both ends and we spent quite a bit of time yarning away on the line.

"Telecom sponsored, and Gordon Hill organised, a Morse sending and receiving competition at Timbertown involving ex-Telecom/Australia Post operators (who used sounder), as well as Navy and Amateur radio operators (who used oscillator). This was conducted on internal circuits and created a lot of interest."
(PHOTO, and front cover photo, TELECOM AUSTRALIA.)

Union Francaise des Telegraphistes

UFT CONTEST

Date - Time - Frequency:
December 17, 1988 - 1400 to 1700 UTC - 14030 to 14060 kHz
2100 to 2400 UTC - 3520 to 3570 kHz
December 18, 1988 - 0900 to 1200 UTC - 7010 to 7035 kHz
Mode: CW only
Exchange: RST, QSO number/UFT number
Example 599 001/17 (for UFT member)
599 001 (non-UFT member)
Note: QSO numbers must run consecutively from the first QSO on 14 MHz to the last QSO on 7 MHz.
Scoring:
Foreign UFT members (not including Corsica) - 10 points
UFT members in France and Corsica - 5 points
French stations (not UFT members) - 2 points
All other stations - 1 point.
Total Score: Points = Sum of points from all bands.
Multiplier = Total UFT members worked.
(a member counts as only 1 multiplier even if worked on more than one band).
Total = Points x Multipliers.
QRP Total = Points x Multipliers x 1.5
(QRP = less than 10W).

AWARDS:	Transmitting	SWL
1st	A Bencher Key	Headphones
2nd	A trophy	A trophy

A certificate is awarded to each station.
Logs: To be sent not later than one month after the date of the contest to -

UFT, PO Box 201,
51057 Reims Cedex,
France.

RE-INVENTING THE WHEEL

by NOEL.T.J.BEVAN, GW8IH.

Having been re-licensed after a lapse of, 30 years, it was interesting to hear quite a lot of G-stations still using bug keys. As a user on and off since I was first licenced in 1936, it seemed a good idea to produce a bug key that would enable me to reply with a similar key.

However, what started as a simple exercise in a well-equipped mechanical workshop, to produce a bug key for my own use, finished up as almost an obsession in turning out and trying prototype keys, which also resulted in a completely new system of controlling an electronic keyer optically.

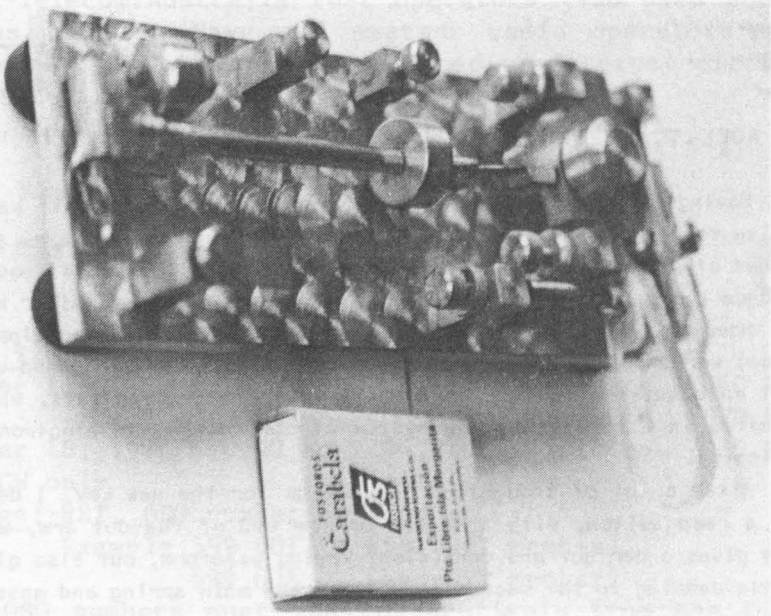
After a lot of thought on the design for the new key, I decided to use a reed switch, with a magnet on the end of the dot arm, which not only gives a perfect and consistent keying waveform, but also gives very little damping to the mechanical "Q" of the main spring and mass assembly. The final design for the whole key is unconventional as ball-bearings are used for the dot arm and the dash mechanism is separate, consisting of a leaf spring arrangement with separate paddle. The final key was mounted on a $\frac{1}{4}$" brass plate. The results were so good that a second model with small variations was made, but the performance both with oscilloscope and on the air was similar.

After using one of these keys for some time with its very good dot mechanism and double-paddle arrangement, it seemed an obvious development to replace the dash contact assembly with a dash vibrating arm at a lower frequency. Thus the reed switch compound, or "Superbug", was born, and a model was made up which performed like an electronic keyer.

This key has ball-bearings on both arms and a common return spring, coupled between the two halves, which also helps to speed the changeover from dots to dashes. Using this key in parallel with an electronic keyer, it was found possible to change from one to the other without much difference being noted. The only disadvantage of the double bug arrangement is that to change speed two weights have to be moved instead of one.

Some further keys to this design have been built on slate bases, with an integrated knife edge bearing system instead of two separate sets of ballraces. A useful by-product of this bearing design is that it forms an ideal basis for a double paddle system for electronic keyers.

The first reed switch bug key, with ball-bearings and spring-loaded weight.



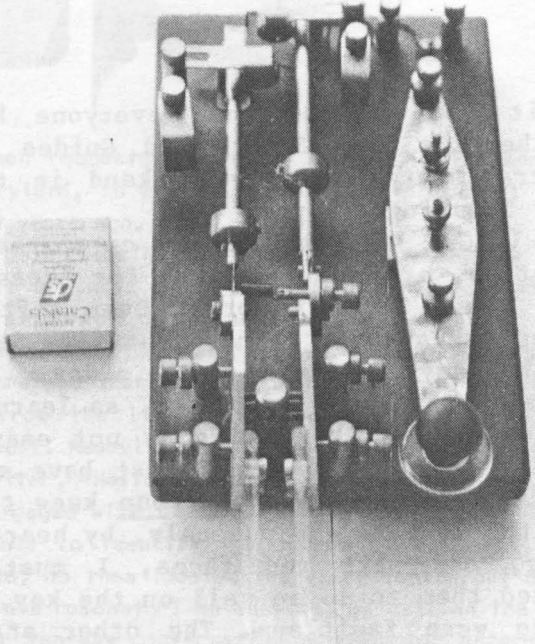
"Superbug" is the product of some months of design and testing. It is not intended as a rival to the electronic keyer, having arrived rather late in the day. However, it always works, it is not affected by RF, and does not require a power supply. Hence it can be regarded as a very valuable standby. Small additions enable it to be used as a single bug; or as mechanical paddles only purely by changing connections.

Since it did not seem possible to further improve mechanical bugs and paddles, some time was spent in experimenting with alternative methods of controlling an electronic keyer without contacts or moving parts. These have included capacitive and piezo-electric methods which proved relatively complex and prone to RF disturbance.

In the end, the simplest and most reliable system turned out to be optical, where just the light beams are interrupted by the operator. Work is still going on with this system and some evaluation models have been out on user trials. The first QSO using optical keying at both ends was between GW8IH and G3BEX and took place on May 19th, 1988. One peculiarity of the developed GW8IH opto paddle is that it can be regarded and used as a single or double paddle.

Very recently, I was given a copy of an article by K5RW, titled "Screwball Bugs" (QCWA News, Vol 32, No. 3), and from this very interesting history I see that a double or compound bug was produced by W6MFY in 1939, and that over 400 of these keys were made under home workshop

conditions, which seems quite a feat in itself. (By coincidence, the W6MFY "Melehan Valiant" fully automatic key is described by Louise Moreau in her "Story of the Key - 5," in this issue of MM. Ed.) While I am at present making these keys for whoever wants them, I have no intention of setting similar home-production records!
(Enquiries about the keys described in this article are invited. Write to to Noel T.J. Bevan GW8IH, Gwynfro, Bryngwyn, Newcastle Emlyn, Dyfed, Wales SA38 9LU. Tel: 0239 710841.)



Reed switch "Superbug" with straight key,
using double knife edge bearing arrangment

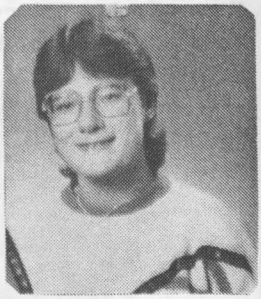
****

- QUESTIONS -

1. What procedure should be observed by a station when sending signals for the purpose of tests, adjustments or experiments?
2. Translate the following abbreviations: QRW; QSE?; QSV?; QSZ; QTU?; W; AB; CS; NW; WB.
3. Indicate in Morse characters the signal used by a British warship when calling a coast station, and state its significance.
(From the Australian PMG's Department Amateur Operator's Certificate of Proficiency Examination, Victoria and Tasmania, April 1935.)

ANGELINA ZIELHORST, PA3DJL.

The JOTA



I take it for granted that everyone knows about Jamboree-on-the-Air, when Scouts and Guides are allowed behind the transmitter for one weekend in the year to talk to other Scouting groups.

Our club (DEC), with the close co-operation of the JOTA-organisation, arranged a course for those who wanted to learn the "fine art" of Morse. Over fifteen (mainly girls) applied to take part, and spent five Saturdays and their Autumn holiday practising twice a day.

The emphasis was placed on keying, as learning to cope with 15 wpm in such a short time is not easy! (And the amateur sitting next to the pupil must have something to do!). At the end of the week everyone knew the standard QSO, and all the letters and numerals, by heart.

Perspiring, and with red faces, I must confess I hadn't expected them to do so well on the key. There were even some who were faultless. The other stations were very co-operative, and SM4DF deserves special mention for his response to my "PSE QRS FER SCOUTS OK?", enabling practically everyone to copy him.

Later, when we worked on the 2 metre-band we found CW there too. The reaction of some operators was very favourable. Some commented in Morse, but the nicest of all came after the JOTA was finished. It was a letter from students at the Naval School in Gouda, Holland.

They had heard everything. They offered the girls two keys, and invited them to visit and operate their school station, and to find out about other means of communication.....What a nice response!

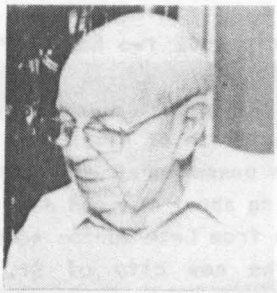
73, 88, Angelina Zielhorst, PA3DJL.

(From DMM11, Autumn, 1985)

TALES FROM THE

BATH Telegraph-

2



F.W. Thomas
Chief Engineer

L.A. Bailey
President

SPOOKY!

I have been requested by Morse Telegraph Club member R.C. Lee of Annapolis, Maryland, to write-up an unusual practical joke I played on him some fifty years ago.

We were both working for ACL Railroad on the graveyard shift (midnight until 8 a.m.). He at Gainesville, Florida and I fifteen miles to his north, at Burnett's Lane.

About 2 a.m. when all was quiet, I connected the primary of an amplifier interstage transformer to the output of a telephone which was disconnected from the line. The secondary was put in series with a telegraph circuit. Removing the receiver from the hook I began repeating in the transmitter, "Hello Gainesville".

Lee was engaged with clerical duties when he heard my voice but at first was unable to identify the source of the call. Approaching the telegraph table, he then located the voice coming out of a 150 ohm main line sounder in a resonator! He answered my call on the Morse key.

During our two-way conversation a conductor entered the office but apparently found it too spooky, threw up his hands and departed.

As a matter of fact, we have done the same thing on BATH, so Bailey can vouch for the truth of it. Incidentally, he checked his files recently and discovered that the BATH Telegraph is now more than eight years old. We have loved every minute of it*. F.W.T.

(*See "Introducing the BATH Telegraph", MM5.)

THE LAST TRAIN RIDE

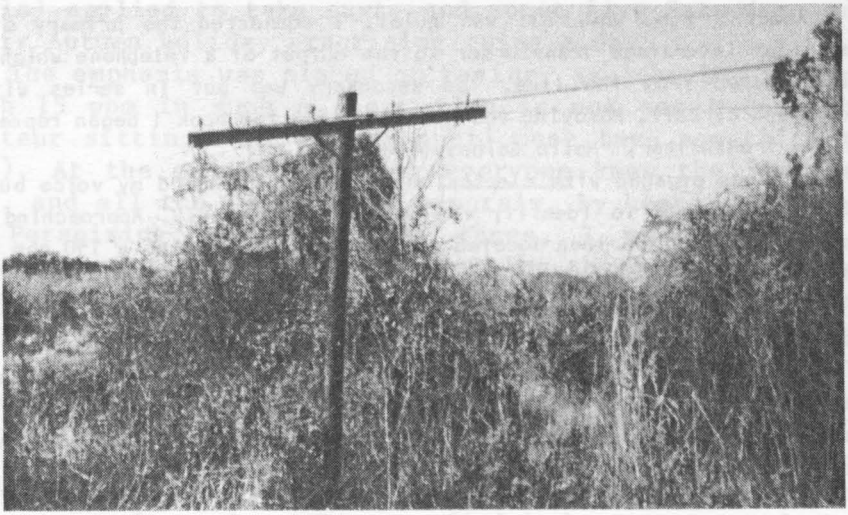
On March 7th and 8th, 1987, I served as a host on the special trains run between Tarpon Springs and Dunedin for the centennial celebration of the city of Tarpon Springs. The celebration was sponsored by the City, with the Florida Gulf Coast Railroad Museum playing the larger part.

Museum volunteers manned the cars, helping passengers entrain and detrain, locate seats and restrooms. They took up tickets and sold snacks to the passengers. I was pleased with my assignment to serve in the coaches. Over 2,000 passengers were transported in the seven trips made.

The twenty mile round trip took two hours. "Reduce speed orders", commonly called "slow orders", had been placed on the track. It had not been maintained for some time, the railroad having sold the line to DOT (Department of Transportation, State of Florida).

I enjoyed talking to the passengers, especially the railway buffs, answering questions and talking about the old days of railroading on the old line. This originally ran from Lake Monroe near Sanford, westward to Trilby then southwest to the new city of St. Petersburg in 1886. Eventually becoming known as the Sanford and St. Petersburg Railroad, during my years as a telegraph operator at Trilby it was referred to in train orders as the "S&StP".

I enjoyed seeing once again the old landmarks along the way, houses and buildings, curves and creeks. I even remembered some of the giant old oak-trees that I first saw forty years ago!



I spied, here and there, in patches of deep woods, old abandoned telegraph poles. Hunters have shot away the glass insulators and the wires have dropped to the ground. I sent and received hundreds of messages over this old line but the poles lost their song long ago when the line was dismantled.

It all served to remind me of happy days; travelling up and down the line as a railroad telegraph-operator; travelling with my wife and children to various points; riding with other railroaders who had become

friends.

While effort is being made at this time to preserve this ten mile portion of track and the two depots, its future is uncertain. I'll call it "The Last Train Ride", and it probably is! L.A.B.

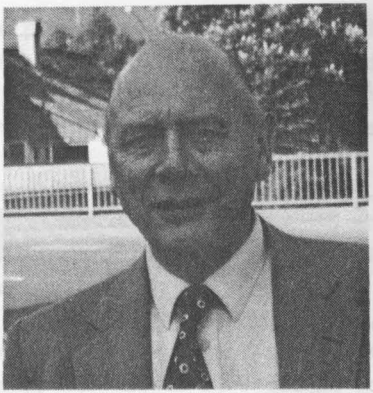
This old shaving mug belonged to Lamech D. Wildonger (1879-1949), who served as Agent-Telegrapher on the Reading Railroad for forty-eight years.

The mug was kept in a local barbershop at Hatfield, Pennsylvania, where it was easily identified as to ownership by the beautiful brass key which was hand painted and glazed in the enamel.

The name and decorations were hand-painted in gold paint. The mug, made in France, was acquired by Wildonger about 1910

From the collection of L.A. Bailey.

Faster Manual Morse-1



In the "VOLUND 1985" the yearbook of the Norsk Teknisk Museum, the Norwegian Museum of Science and Technology, KAYE WEEDON described the development of manual speed in Morse telegraphy from sounder to Vibroplex, taking in typewriters, bonus schemes and Phillips code in the process. His original text is in Norwegian plus a shorter English language summary. The following is the English summary with selected extracts from his references (indented text) to enlarge on some of the matters discussed.

During 50 years, roughly, 1858-1908, U.S. telegraph operators and their employers introduced innovations which materially increased the speed of manual land-line telegraphy which thereby remained the fastest means of message handling.

After 13 difficult years, Samuel Morse, who lacked mechanical and electrical genius, had joined forces with Alfred Vail. To Vail we are indebted for the development of the MORSE REGISTER, a recorder which embossed dots and dashes on a paper strip, the MORSE ALPHABET, which was the AMERICAN MORSE CODE, the MORSE KEY and the RELAY. A U.S. patent was obtained and in 1843 Morse, Vail and others were granted 30,000 dollars by Congress. With this large sum, Morse telegraphy started in 1844 with the opening of the Washington, D.C. to Baltimore, Md. line.

Quill pens

In Continental Europe two Morse stations were tested by Prussia in 1848 between Berlin and Cologne. Contemporary woodcuts show transmission by the Prussian key of 1853 and a received telegram being entered by quill pen in a ledger, the embossing Morse register being clearly shown. The resulting low speed of message handling may have been around 5 w.p.m. The two sets originally purchased from America served as models for the more advanced MORSE INKERS made by Siemens in 1850. Thereby, inkers became standard in Germany and elsewhere, telegrams being read off the inker tape and written out in longhand.

With embossed tapes the same was done in the U.S. until telegraphists, c.1858, discovered the reading of MORSE CODE BY EAR. This led to the rapid spread of a new telegraphic instrument, the SOUNDER, essentially the register stripped of clockwork and paper tape. This development halted further improvements of the Morse register.

Ten year delay

(The sounder did not reach Britain for at least another ten years. The Electrician', March 17, 1883, (ref. 18) reported a recent lecture by William Preece on telegraphic instruments. Preece recorded that the Post Office at that time had 11,519 telegraphic instruments of various kinds, mainly inherited from the old pre-1870 telegraph companies. "Sound reading", he said, "is gaining ground in England with great rapidity. There are now 2,000 sounders, while in 1869 there were none. In America scarcely any other instrument is used, but on the Continent of Europe there is scarcely one... Sound reading is more rapid and more accurate than any system of visual signals or permanent record.")

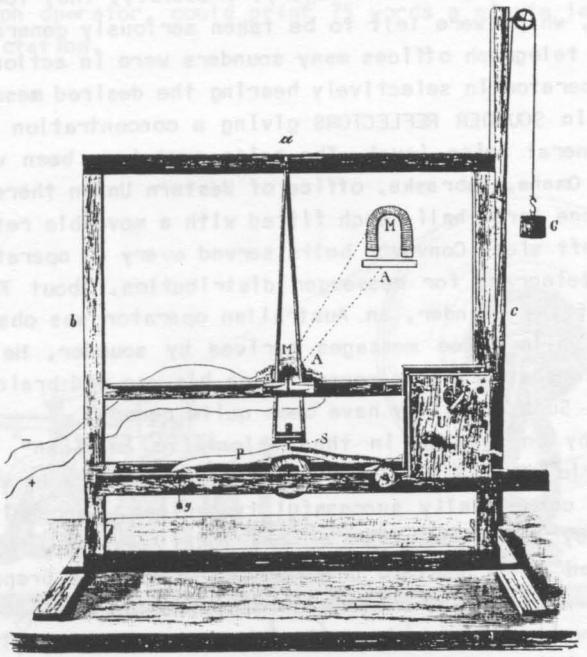
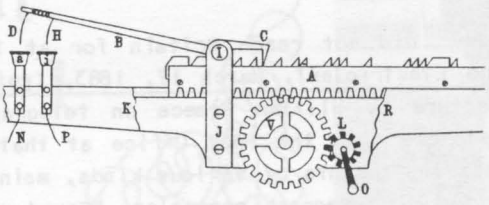


Fig. 1. Morses's earliest recorder (1837). A pendulum-shaped armature with a stylus at the lower end inscribed a wavy line on the paper tape. The recording was a code which necessitated reference to a code book.

Fig.2. Vail's transmitting key of 1837 was beautifully built but hopelessly impractical. Interchangeable letter units represented the individual Morse characters. The crank and gears moved the assembly to the left, lifting and lowering a contact bridge into two mercury cups.



The switch from visual to aural reading of Morse must have relieved the operator of eye strain since inadequate illumination will have been the general rule and the embossed characters were white on white. At the same time, the operator could now keep his eyes on pen and paper. However, the strain now became aural.

Alas, no one but the operators themselves worried about strain or even disablement and permanent injury. (Possibly, they too ignored such consequences, which were left to be taken seriously generations later.) In the major telegraph offices many sounders were in action at one time. To aid the operator in selectively hearing the desired message, sounders were placed in SOUNDER REFLECTORS giving a concentration of one signal above the general noise level. The noise must have been very considerable: in the Omaha, Nebraska, office of Western Union there were 80 work stations in one large hall, each fitted with a moveable reflector on the operator's left side. Conveyor belts served every 10 operators, removing handwritten telegrams for messenger distribution. About 70 years after the advent of the sounder, an Australian operator was observed talking to a friend while three messages arrived by sounder. He then resumed writing, in longhand, the telegrams which his ear and brain had noted in the meantime. Such cases may have been quite common.

Inspired by an article in the "Scientific American", an inventive Milwaukee trio, SHOLES, GLIDDEN and SOULE, started work which resulted in the first commercially successful typewriter. Successive prototypes were tested by "stenographers" of the local Western Union Office. In 1870 it looked as if Western Union in New York were prepared to start manufacturing and using the new machine, at a price of 50,000 dollars. Thus the typewriter might have first become a telegraph instrument but for a Western Union telegraphist, a certain T.A. Edison who, in a manner which was soon to become his trademark, claimed that he could build a better machine for less than the price asked. The outcome was, however, that Edison introduced the Pope-Edison stockmarket ticker which printed type.

Incidentally, Edison won world-wide fame in 1877 with his phonograph which was originally inspired by embossed paper tape.

New technique

In 1873, E. Remington & Sons started producing the "Type-Writer" - now named the "REMINGTON". In 1881, an office revolution began: a new market for female labour was created and the "Remington" came into widespread use.

At the 1884 Electrical Exhibition at Philadelphia, SULLIVAN demonstrated a proposed new technique of typing messages heard on the sounder.

> (From The Electrical World, Nov. 1, 1884.(ref. 31). "At the International Electrical Exhibition in Philadelphia we saw an operator - Mr James W. Sullivan - receiving from a Morse sounder at a fair rate of speed and copying the messages in beautiful style on a type-writing machine. The sounds from the Remington and the sounder did not appear to interfere with each other, and the operator seemed to receive with much more ease than with pen or pencil, while the copy was as clean, neat and plain as though it came from the printing press. Mr Sullivan pointed out a boy in the department in which he was working who, though not a telegraph operator, could print 75 words a minute in fine style from dictation.

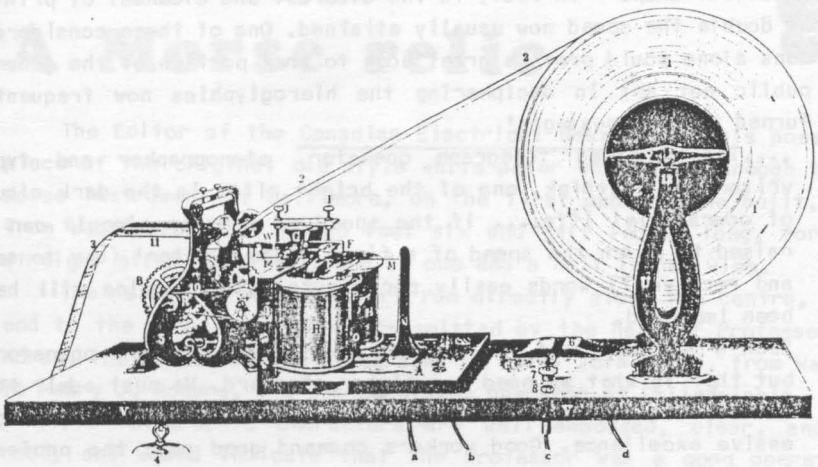
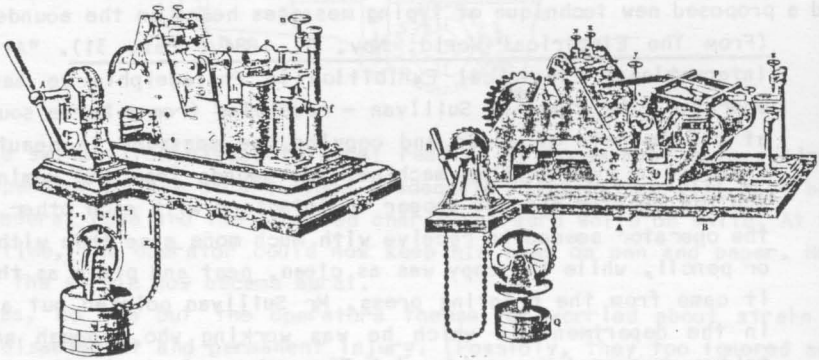


Fig. 3. The Morse-Vail indenting recorder of 1846. the romantic curlicues of the framework were retained unaltered for 40 years.

Fig. 4. The oldest Siemens-Halske embossing/indenting "relief" Morse recorders of 1850 and 1852. A stylus indented the Morse characters in the paper from below. An important detail was the clockwork rewind copied from astronomical clocks. It gave a constant torque during the wind-up period whereby no copy was lost. The 1852 model was adopted by Czarist Russia as their "high-speed telegraph". This design was known as the "Camel recorder" from the shape of the frame.



The thought occurred to us that any company which desired to make the best use of its wires, and at the same time earn a reputation for neatness and speed, might do so in this way... An expert sound reader might thus, with a type-writer, turn out messages in excellent shape - in fact, in the clearest and cleanest of print - at double the speed now usually attained. One of these considerations alone would prove a great boon to that portion of the general public not apt in deciphering the hieroglyphics now frequently turned out as 'messages'

....The combined telegraph operator, stenographer and type-writer is, we think, one of the bright rifts in the dark clouds of operatorial life.... if the speed of a Morse circuit can be raised to match the speed of a first class 'writer' (say to send and receive 75 words easily per minute), the service will have been improved.

Such a system would, of course, require more expert operators, but that is what we need - a higher standard. We must admit that the service now is excellent, but its excellence must be progressive excellence. Good workers command good pay; the professional botches, cobblers and shirks should look out for themselves. The old-time lackadaisical style of floating along with the tide is certainly very pleasant, for it is easy; improved methods may be a trifle harder, but power will grow with every effort...")

Reported speeds

(In 1886, Elektrotechnische Zeitschrift reproduced a report from Paris on 'Morse speeds achieved in America' but with no mention of source. - "Telegraph operators in America are divided into 5 classes according to the work they do.

The best workers deal with press copy and earn 400-800 marks a month ($95-$190). (Submarine) cable operators earn from 360-520 marks a month ($85-$125). Then follow those who transmit stock market information; they are paid 320-520 marks a month ($75-$125).

The others only receive 160 to 360 marks ($38-$85), and finally the railway telegraph operators: 200 to 360 marks ($47-$85) [14 years later, in 1900, the annual pay "in communications" was $470 and caution seems necessary in accepting these second-hand figures offhand, K.W.].

The fastest operators are able to work at 45 to 48 w.p.m. They would, however, be able to read a far higher w.p.m. but they would not be able to write the messages down. Therefore, these operators cannot work beyond the limits stated if written telegrams are required. However, one half hour of reception at 51 w.p.m. has been achieved when short-hand was used.")

[Part 2 of this article will appear in the next issue of MM]

A Morse relic

The Editor of the Canadian Electrical News has in his possession a piece of the original old style white paper which ran through the first Morse instrument at Baltimore, on the first public line built, running from Washington. It is two feet six and half inches long, torn nearly straight off at each end, and is one and a half inches wide.

The raised Morse characters run directly along the centre, from one end to the other, and were transmitted by the hand of Professor S.F.B. Morse, the father of the telegraph, on April 28th, 1846, from Washington to Henry J. Rogers, who was receiving operator at Philadelphia, Pa.

The telegraphic characters are well embossed, clear, and easily read, and would indicate that the Professor was a good operator. The translation is part of a telegram from the Secretary of the Treasury, Bibb to Mr H.J. Rogers, and reads as follows:- "P.M., yours received. I never doubted friend Rogers's politeness or his disposition. All is O.K."

(From The Telegraphic Journal and Electrical Review, September 6, 1884.)

THE KENT PADDLE

GERALD STANCEY, G3MCK

Following my delight with the Kent straight key kit (see MM8, p.34) I purchased their paddle kit and have not been disappointed. Kent have done it again and produced another winner.

Basically, this is a twin-lever paddle which is suitable for both iambic and simple keyers. It is about the same size, and has the same general appearance, as the well-known Bencher paddle. However there are differences in detail. The most significant is the fact that both levers are mounted on rods, about 6mm diameter, which pivot in precision ball-races.

This completely eliminates any feeling of play or slackness in the movement. Tension and gap are individually adjustable for each lever by means of fine pitch screws. The gap settings have lock-nuts.

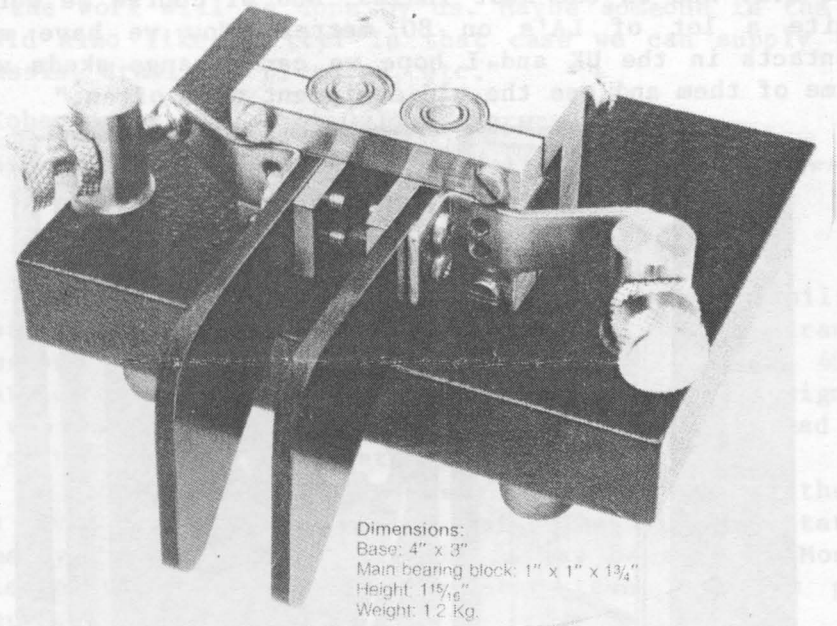
The key looks nice and high quality materials have been used in its construction. The base is solid steel painted black, the movement and fitments are brass, and black plastic is used for the paddles. On my key the contacts are solid silver although I understand that in the kits now being supplied the contacts are made of copper.

The quality of design and materials extends to the packing and assembly instructions. Assembly was very straightforward and took well under one hour. The only tools used were two standard size screw-drivers and a pair of small narrow-nosed pliers.

The assembly instructions recommend that you read them before unpacking the kit. This is sound advice. I would

also recommend that you follow the instructions, assembling the key under good illumination and on a clean clear surface. A sheet of white paper on the dining room table and a reading lamp are ideal.

The reason for this is that one or two of the components are very small and could easily be lost. These comments are not made to scare people off assembling the kit but to suggest that adherence to good workshop practice may save grovelling on the carpet looking for the odd piece!



Dimensions:
Base: 4" x 3"
Main bearing block: 1" x 1" x 1¾"
Height: 1 15/16"
Weight: 1.2 Kg.

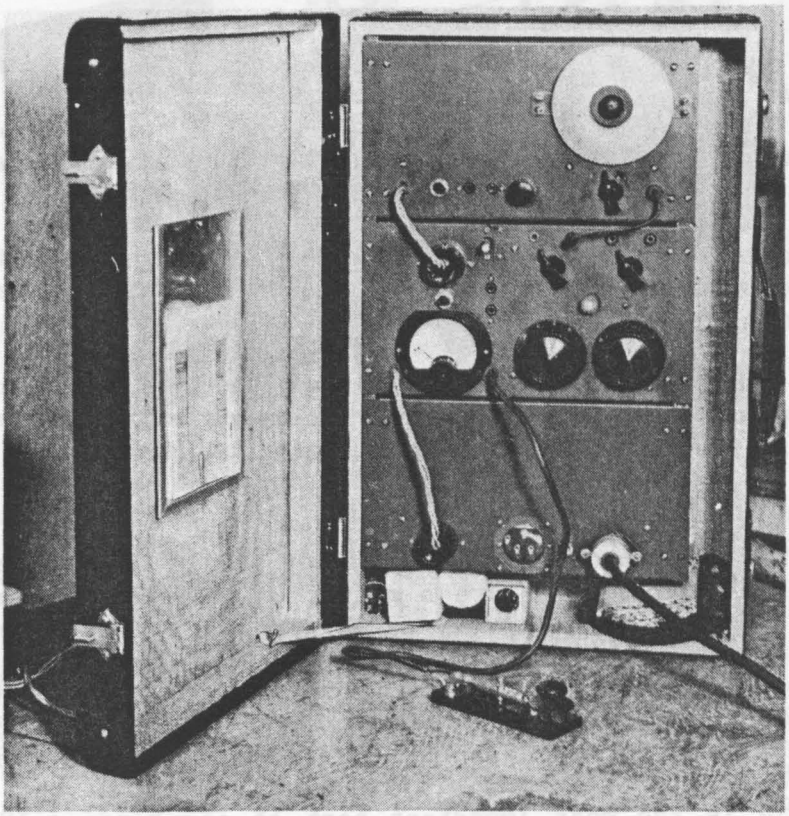
The most important aspect of any paddle is how good it is. Well all paddles are a matter of personal preference but this one is certainly excellent and for my money is quite comparable with the Bencher. Like the Bencher it does not prevent me from being QSD (refer to your MM Q/Z codebook if you have forgotten what this one is! Ed.), but certainly I am less QSD than when I use the hacksaw blade paddle! It certainly reinforces my view that the paddle is the most important part of any keyer and that money spent in this area is always money well spent.

The Kent paddle is obtainable as a kit or fully assembled from: R.A. Kent (Engineers), 243 Carr Lane, Tarleton, Preston, Lancs PR4 6YB, England.

NRHF
Field day a success

The Norsk Radiohistorisk Forening field day, on 28th May 1988, using WW2 "clandestine" radio equipment, which was announced in MM7, was very successful, reports Tore Moe, LA5CL*.

"We worked eight G-stations, our signals were heard in the U.S. and in the West Indies, and of course we worked quite a lot of LA's on 80 metres. Now we have many contacts in the UK and I hope we can arrange skeds with some of them and use the old equipment more often."



"OLGA", illegal receiver/transmitter produced in Norway during WW2 by Hövding Radiofabrikk.
(Photo: Olav Lorck Eidem, 1945).

The B2 set is now kept by Erling Langemyr LA3BI, Vestliveien 7, N-1412, Oppegard, Norway. If you would like to try a sked please contact him or me.

On the back of our QSL card is a Norwegian clandestine suit-case set, code-named "Olga . This is a simple xtal conrolled one valve transmitter (6L6) and a three-valve superhet receiver.

Eighteen members of our society are making replicas of this set and we hope to have them on the air before long. The chassis have been made professionally, but the rest of the work will be done by us. Maybe someone in the UK would also like to try? In that case we can supply the chassis, drawings, pictures, etc."

(*Kobenhavngt. 15, 0566 Oslo 5, Norway.)

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A MORSE ANXIETY - 50 YEARS AGO

The pre-war Amateur Radio Licence had some unfamiliar restrictions. Power was limited to ten watts; transmissions were permitted on two bands only, 20m and 40m; stations were allotted call-signals and not call-signs; it was forbidden to use "CQ", and the word "Test" had to be sent by the calling station.

In those days most of us were CW operators, but there was even a restriction in that. The licence stated clearly "..... the call-signal.... may be sent by Morse telegraphy at a speed not greater than 20 words per minute."

It seems strange, half a century later, that those of us who participated in the American high-speed CW nets were really anxious in case we might be reported to the Post Office for sending Morse too fast, and thereby forfeit our licences!

Ray Hunting, G3OC.

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PERSEVERANCE

I first learned the Morse code before the war (at junior school I hasten to add), and finally got around to taking the test in 1984. So you see, if one perseveres it doesn't take long. HI!

Geoff Arrowsmith, G4XSY.

SOUNDERS on the PIER

by GUS TAYLOR, G8PG.

When I was a boy, Wigan Pier was a favourite subject of music hall jokes. Actually, in its heyday it was a vital link in the canal chain, allowing products as diverse as coal, pewter ware, industrial castings and cotton to be moved from their place of manufacture in Wigan to other parts of the UK.

By 1929, the canals had been overtaken by other forms of transport, and the old pier was demolished. In the last few years, however, the whole site has been revitalised, the redevelopment taking the form of a fascinating series of exhibitions portraying life in Wigan as it used to be.

It was while sitting on a bench on the third floor of "The Way we Were" heritage exhibition that I caught sight of a familiar shape through the door of an exhibition booth. At first I could not believe my eyes, but after a quick walk around the gallery I realised I had struck gold.

What I had seen was indeed the hood of a genuine old GPO telegraph sounder, and closer inspection revealed a small telegraph office with two sounders, two genuine GPO keys, two genuine GPO telegraph office clocks and two operators, the latter represented by dummy figures dressed in the clothes of the period.

Sadly, the keys and sounders were not wired up, but the nostalgia was there, particularly as the keys were of the same type that I used when G8PG first came on the air in 1937.

Unfortunately I live just too far from Wigan to help, but this exhibit offers a real challenge to any operators in the Wigan area. Properly wired up it could provide a working exhibition of telegraphy, even if only on certain days, and it would be visited by thousands of school children who otherwise will never hear the unmistakable clack of the sounder.

The story of The Key-5

SEMI-AUTOMATICS.... OPEN SEASON

by LOUISE RAMSEY MOREAU, W3WRE.

By the end of the first world war the Vibroplex exclusive manufacturing rights had relaxed. A few years later CW was replacing spark, and then the name of the game in semi-automatic keys was "every man for himself". With the market now wide open for both wire and radio in advertising, even the formerly forbidden "bootleg" keys were being used on the wires.

The twenties saw Bunnell, Lytle, Signal, Logan, and Lippencott instruments - all variations of the original 1904 Martin principle of speed sending with greater comfort in operation. But, as in the many that followed, each was aimed at some shade of difference in design that would possibly be more preferable to the potential buyer.

The J.H. Bunnell Company, who had been making Martin's "Autoplex" as late as 1917, opened the market utilizing a familiar designation with their product, the "Gold Bug" (fig. 1).

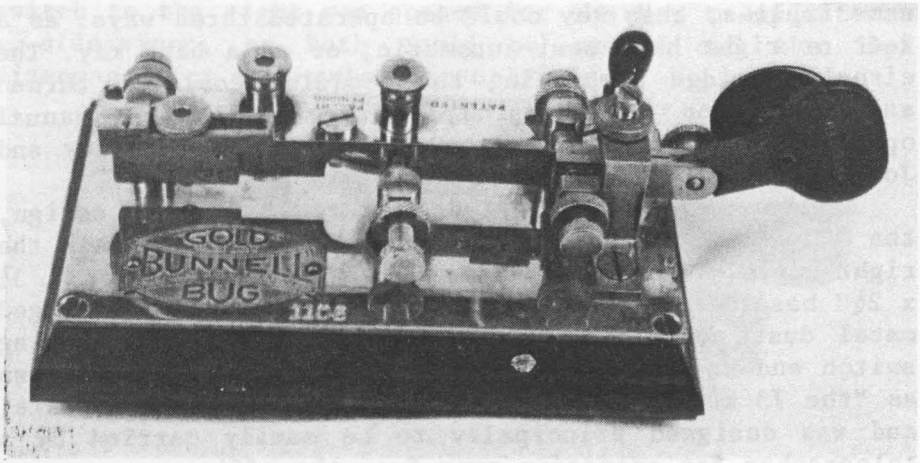
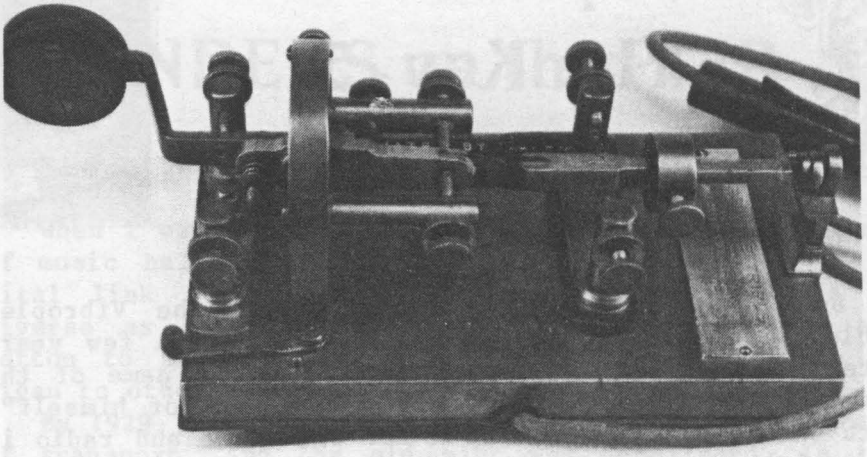


Fig. 1. "Gold Bug", 1922.

Fig. 2. "Triplex", 1922.

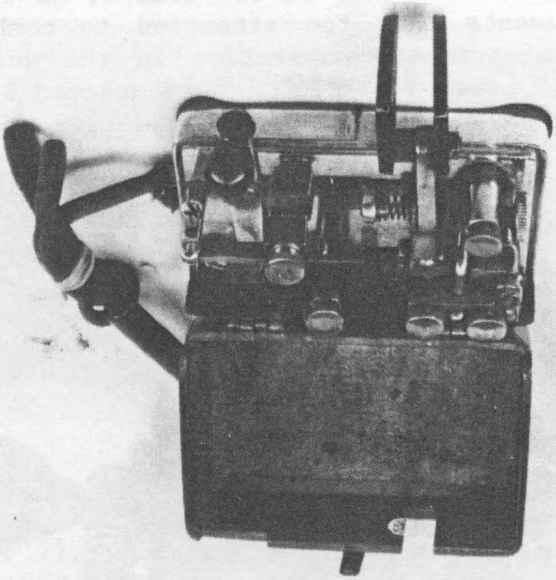


Here, Bunnell employed a weight at the extreme end of the pendulum that could be extended or shortened to control speed. An ingenious feature was the mounting of the vibrating dot contact against the right side of the pendulum, with an opening through the pendulum for this vibrating contact, thus eliminating lashback and split dots. The entire key was nickel-plated but the nameplate was advertised as gold-plated to illustrate the name of the key.

In 1922, the Philadelphia Thermometer Instrument Company introduced "The Lytle Triplex" (fig. 2). As the name implies, this key could be operated three ways: as a left or right hand semi-automatic, or as a hand key. The circular bridge supporting the pendulum could be turned and locked on either side, or vertically for manual operation - a return to the principle of the Maloney and Johnson style of the early sideswipers of 1886.

Another key that reverted back to an earlier design, the "Ultimate" of 1925 (fig. 3), was patterned after the right-angle principle of the Meccograph. Mounted on a 3¾ x 2¼" base, this miniaturised semi-automatic had a hinged metal dust cover that exposed only the circuit closing switch and the thumb and finger pieces. This became known as "the 73 key", because of the numeral on the nameplate, and was designed principally to be easily carried by a telegrapher for operation away from the office.

Fig. 3. "Ultimate", 1925.



The following year, two less expensive models of this key were produced for the Amateur market using a "white metal" that deteriorated making it unfit for use.

Then, in the late 1920's, the Signal Electric Company of Menominee, Michigan, combined the semi-automatic with a "sideswiper" in their "Sematic" key (fig. 4). This had a circuit closing switch on each side of the base and a lock to secure the pendulum during manual operation. The switch to the right was opened for the key to operate as a sideswiper, or both could be opened and the lock disengaged for semi-automatic operation.

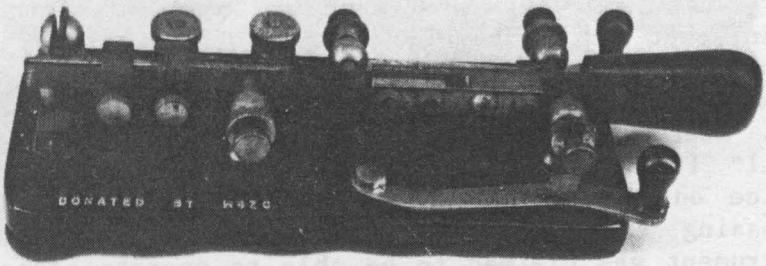


Fig. 4. "Sematic", Late 1920's.

The Les Logan Company in San Francisco originated the "Speed X" keys at the close of the 1920's. As with other earlier instruments they too attempted to combine both manual and semi-automatic operation in the design. The Logan "Speed X" (fig. 5) had a high "T"-shaped bridge for carrying purposes and, if turned on the side operated as a hand key.

The period 1930 through 1941 saw the introduction of new names as the field expanded, with McElroy, Telegraph Apparatus, Johnson, Electric Specialty, and Go-Devil in addition to the earlier keys.

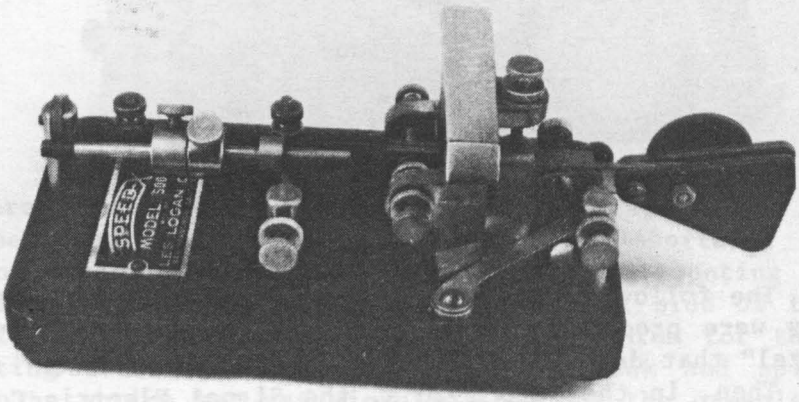
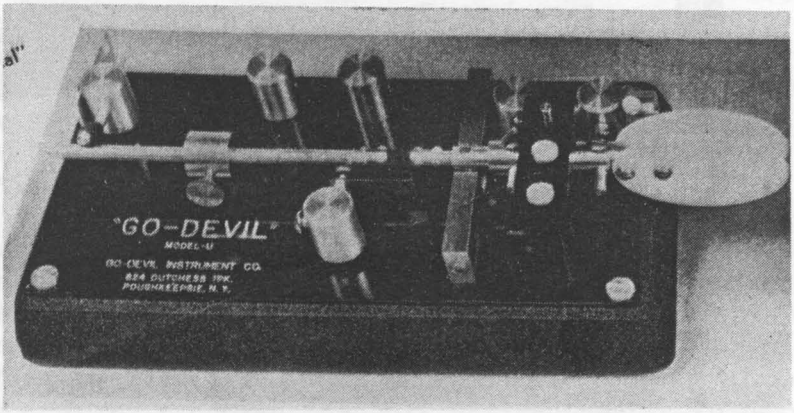


Fig. 5. "Speed X". Late 1920's.

"Speed X" acquired a new identity in the 1930s with the E.F. Johnson Company taking over that name with the patents of the Logan company, and continuing production of the Logan designs. Then in 1934 the Signal Electric keys were also absorbed by Johnson, who produced all the Signal instruments in addition to the so-called "Johnson Bug" that used the more familiar semi-automatic style reminiscent of the Martin designs. "Speed X" was almost synonymous with Johnson until the 1970's.

But the thirties saw more than Johnson. Late in 1933, A.H. Emery of Poughkeepsie, N.Y., introduced the "Go-Devil" (fig. 6). This key could, by using a locking device on the dot contact, act as a sideswiper or, by releasing the lock, have semi-automatic action. This instrument was claimed to be able to operate effectively with very high voltages. A slimmed-down version was re-introduced in the late 1950's.

Fig. 6. "Go Devil". 1933.



A year after the "Go-Devil" appeared, Ted McElroy, the undisputed World Champion Speed King, produced his "Mac-Key (fig. 7). This was much like the earlier Logan idea of turning on the side for use as a hand key or as a semi-automatic. He offered the key in a marbleized enamel style, or in a less expensive model.

In 1938, after he had again won the Morse Tournament, he introduced a chrome-plated tear drop design that carried "World's Champion Telegrapher" on the nameplate.

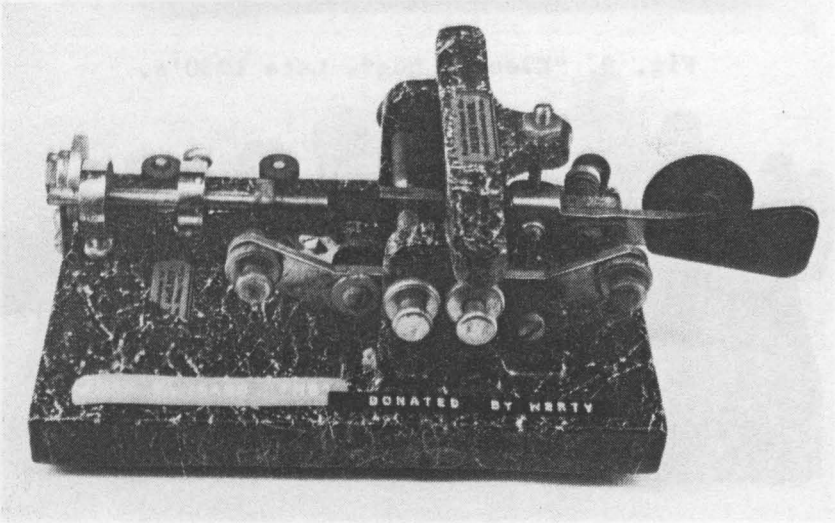


Fig. 7. "Mac Key". 1934.

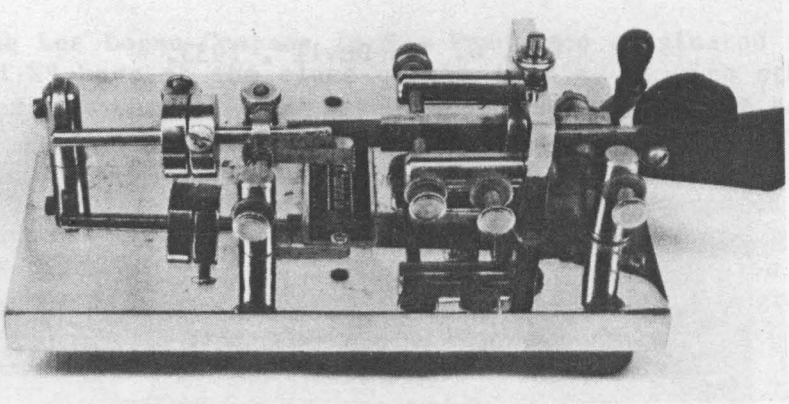


Fig. 8. "Speed Key". Late 1930's.

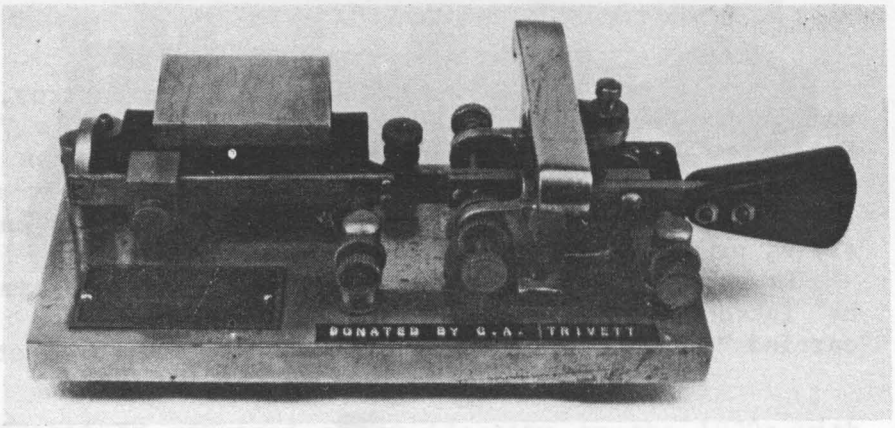


Fig. 9. "Electro Bug". Late 1930's.

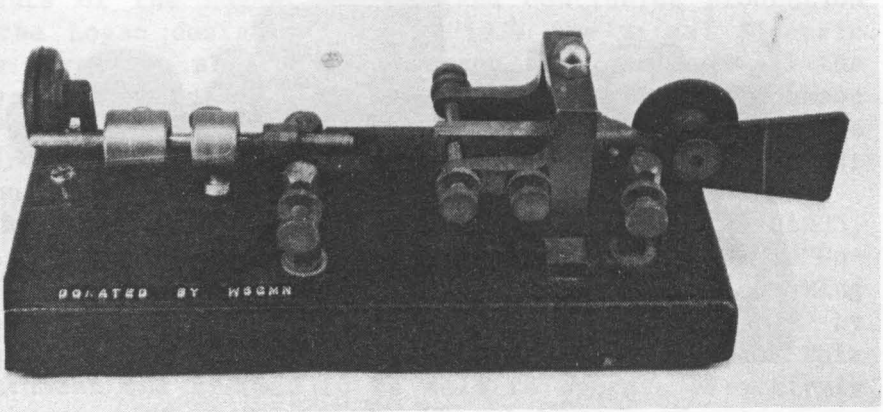


Fig. 10. "Radio Speed Bug". 1939.

In the mid-30's the Telegraph Apparatus Company of Chicago advertised their "Speed Key" (fig. 8), offering either a heavy chrome or colored lacquer base. The pendulum was mounted through a 1¼ x 3¾" rectangular bridge. During World War II the Lionel Company produced these keys for the armed services.

1935 saw the "Electro-Bug" (fig. 9) made by the Electro Manufacturing Company of San Francisco. This key bore a close resemblance to the Logan "Speed X", but a major difference was the addition of a switching mechanism in the base. This provided a series of resistances to adjust the dot-relay to operate with various types of current if necessary.

Then in 1939 the Electric Specialty Company of Cedar Rapids, Iowa, produced the only semi-automatic to be sold in kit form. This "Radio Speed Bug" (fig. 10) was designed principally for Amateur use and featured a large hard rubber damper to reduce lashback of the pendulum.

Also in 1939, and primarily for Amateur Radio use, the manually operated, spring-driven, fully automatic key of Melvin E. Hansen, W6MFY, of Newport Beach, Calif, was advertised. This was the "Melehan Valiant" (fig. 11), which was actually two completely separate units, one to make the dots and the other to create a series of dashes. After WWII, production was resumed but by then the electronic keys gave too much competition.

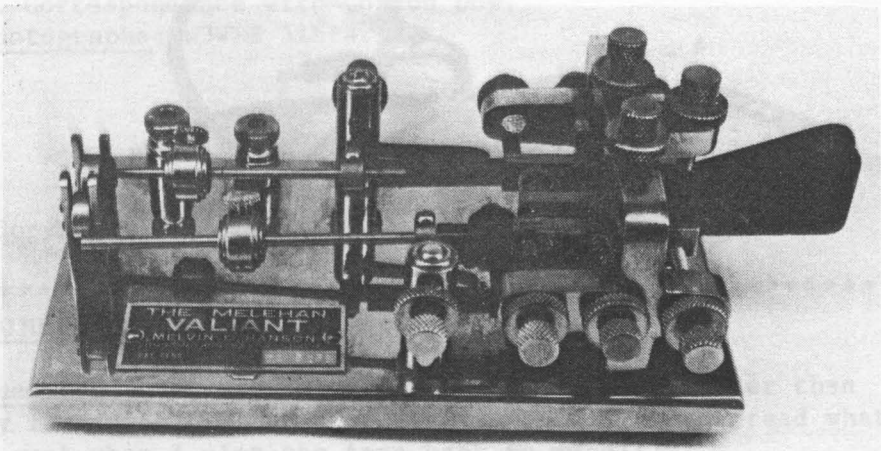
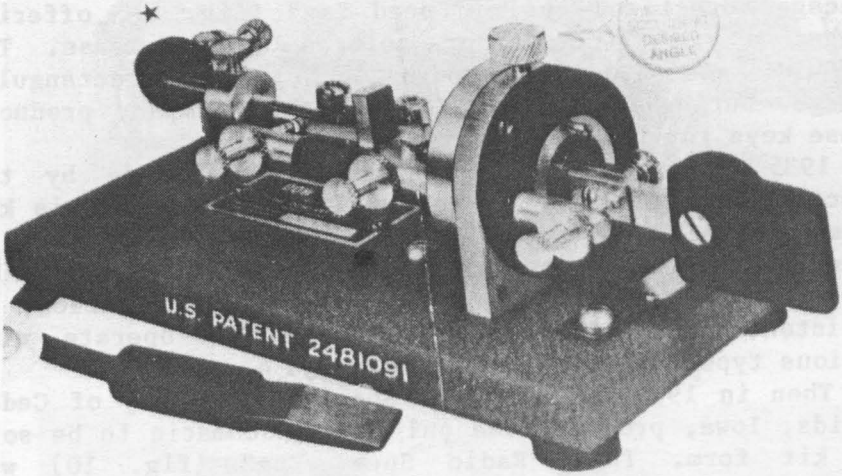


Fig. 11. "Melehan Valiant". 1939.

Fig. 12. "Dow Key". 1949.



The post-war period also saw the "Dow-Key" (fig. 12), based on the Lytle design, adjusting to the most comfortable position of the operator's hand. In 1949, Horace Martin Jr., son of the inventor of the Vibroplex, introduced the "Rotoplex" (fig. 13), utilizing a ball-bearing movement that had been originally designed for military use during WWII.

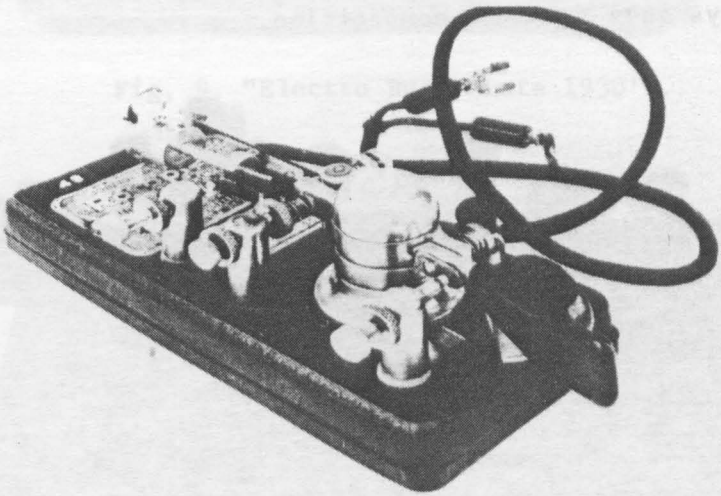
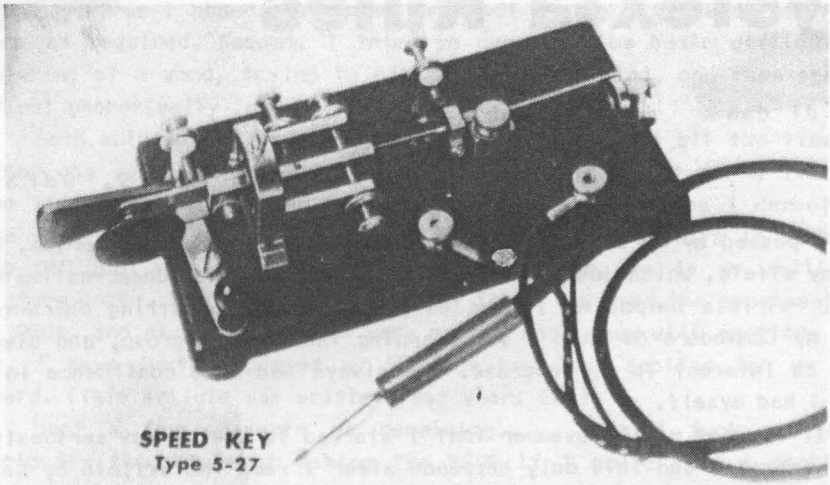


Fig. 13. "Rotoplex". 1949.

Fig. 14. Bunnell "Speed Key". 1957.



1957 saw the Bunnell "Speed Key" (fig 14.), a streamlined version of the Bunnell-Martin "Flash-Key". From 1960 on, the semi-automatic field narrowed as the electronic keys became more and more popular.

References used

1. QST magazine.
2. CQ magazine.
3. Telephone and Telegraph Age.
4. U.S. patent indices for the years 1920-1949
5. Correspondence with Gordon Dow.

Photographs: W3WRE library.

73,

Louise Ramsey Moreau, W3WRE
99.99%cw

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COMMUNICATION PROBLEM

Heard on 2 metres. "My sending (CW) is much faster than my receiving. The only problem is that I cannot read what I sent when I play the tape back to myself."
(From Groundwave, newsletter of the Wimbledon & District Amateur Radio Society, July 1988.)

Dyslexia Rules

dah di dah dah dah dah?

by JOHN PEARS, GØFSP.

I passed my Morse test in September 1986, much to my surprise, but not my wife's. Which just goes to show you should never under-estimate a lady. Patricia helped me in the early stages by in-putting characters into my Commodore 64 when I was learning them by the group, and always took an interest in my progress. She always had more confidence in me than I had myself.

It was not until November that I started to use my key seriously - on 2 metres - and this only happened after I read the article by Keith Crittenden, GØCGB, "Dah dit dah dit dah", in MM Nr 1, Autumn 1986. I decided that like Keith I would try for the 50 CW QSOs Award as I was then, and still am, a member of the G-QRP Club which makes the award.

This was when the problems really started. I think from a Morse situation there is a lot in common with learning to pass the driving test and then learning to drive. I experienced all the problems Keith had, so I will not repeat them here but refer you to the article in question. But I do have an even more interesting problem in that I am dyslexic. Being dyslexic can present quite a few CW operating difficulties.

I decided that the best way round the expected difficulties would be to have a pre-written QSO to work from and hope that everyone else would adhere to it, realising that this newcomer had some problems.

Unfortunately, this did not always work out as someone would ask an awkward question, the answer to which was not included in my standard set of replies. Of course, the other operator was not aware that he was in QSO with a dyslexic operator, and in answer to a question about operating conditions he didn't really want to know that I was using a straight key or receive some other comment from my list that had little to do with his query. After about eight QSOs I received a kindly telling-off about my "rubber-stamp contacts. It was justified of course; things had to change.

I decided that the time had come to get to grips with the problem. Perhaps an explanation of how it manifests itself will make the reader more able to understand the solution. With the key in my sweaty hand, I cannot picture in my mind words that are more than four characters long, and I even have trouble with some four-letter words (no pun intended!).

My solution was two-fold. First, I produced an alphabetical list of all the words I hoped would meet my needs during a QSO and referred to them as required. Second, I tried to overcome the basic difficulty by thinking of a word, trying to picture it in my mind, and then spelling it out phonetically in CW.

Both solutions are working and improving my QSOs all the time. The first one was fine until I wanted a word that was not on my list. Now the list is being amended in an on-going way. Sometimes I cannot find the word I want although it is on the list; this results in pauses in the QSO but again this is improving with use, as is my ability to picture words. Both approaches have, I feel, improved the spontaneity of my QSOs, and as I enjoy my CW very much I hope they will continue to do so. I have just completed my 50 QSOs and have applied for my G-QRP Award. (This article was written last year. Ed.)

Just a few comments on receiving..... When I took my test I seriously thought about asking the RSGB if I could take a dictionary along with me to check my received copy as I felt that I was at some disadvantage. Most people can cope with one or two mistakes, but calling someone Patricia (or something that sounds the same) when his real name is Patrick is not always appreciated.

So finally, if you do find you are working this GØ from Hemel Hempstead who keeps pausing when he is sending, and calls you Patricia when your real name is Patrick - just spare a kindly thought for the dyslexic operators of this world!

KO? and 73,

John, GØFSP.

ooooo000ooooo

BRITISH ARMY WIRELESS SETS

Louis Meulstee, PAØPCR, whose fascinating detailed articles on British military signalling have appeared in MM ("The Fullerphone" and " Earth Current Telegraphy" - with more to come in the shape of "The Heliograph" and a "WW2 electronic version of the Fullerphone"), is now working on a handbook of British Army Radios in two parts, covering the years 1903 to 1946.

He is trying to find people who were in Signals Experimental Establishment (SEE) during WW2, who might be able to help him with some details. He is particularly interested in obtaining information and pictures of Wireless Sets Nrs 4, 6, 7, 13, 15, 24, 27C, 34, 39, 47, and 56. If anyone can help in any way, please write to him at the following address: Smetanalaan 28, 3122 HP Schiedam, Holland.

CURIOSITIES of the wire

from "CHAMBERS'S JOURNAL"

A London firm telegraphed to a country agent, "Send rails ten foot lengths." The letters "t" and "e" are in the Morse code represented by a dash — and a dot . respectively; but in transmitting this message, the instrument in recording the word "ten" signalled two dots instead of the dash and dot, and the word was thereby converted into "in", the message reading: "Send rails in foot lengths." Mr Scudamore* adds, however, that "if the senders had been less chary of their words, and had written: "Send rails in ten foot lengths," which would have cost no more, the blunder would never have occurred."

In somewhat the same manner, in a message where the sender asked for a "hack" to be waiting for him at the station, the letter "h", which is signalled on the Morse instrument by four dots, was converted to "s", the signal for "s" being three dots; the wayward instrument having failed one dot, the consequence was that the traveller found a "sack" awaiting his arrival.

We can imagine the astonishment of the butler, who received a telegram from his master - a certain nobleman - asking him to send at once "ten bob," (ten shillings) as he was "greatly in need of it." Of course the message had been wrongly transmitted, "ten bob" having originally been "tin box". This story, which happened not many years ago, was told me by a gentleman who was in the telegraph service at that time, and had to deal with the complaint which was made about the matter.

The following also comes from the same source. At one of the gatherings held periodically at Braemar, some years ago, a certain earl telegraphed to Edinburgh for a "cocked hat" to be sent to him at once. In transmitting the message, the article mentioned as wanted was converted into "cooked ham", which was actually forwarded forthwith, greatly to the surprise and indignation of the nobleman.

A telegram was once received as follows: "Please send your pig to meet me at the station." Of course it should have been "gig", the instrument having made what, in telegraphic phraseology, is called a false dot, by recording . — — . (P) instead of — — . (G).

In fact, it is almost necessary to state, for the credit of the telegraph, that the treachery complained of is, after all, not

intentional, but arises mainly from a difficulty which it appears to have in distinguishing the difference between certain letters. This is plainly so in the letters "y" and "x", which the electric wire is constantly confounding one with the other.

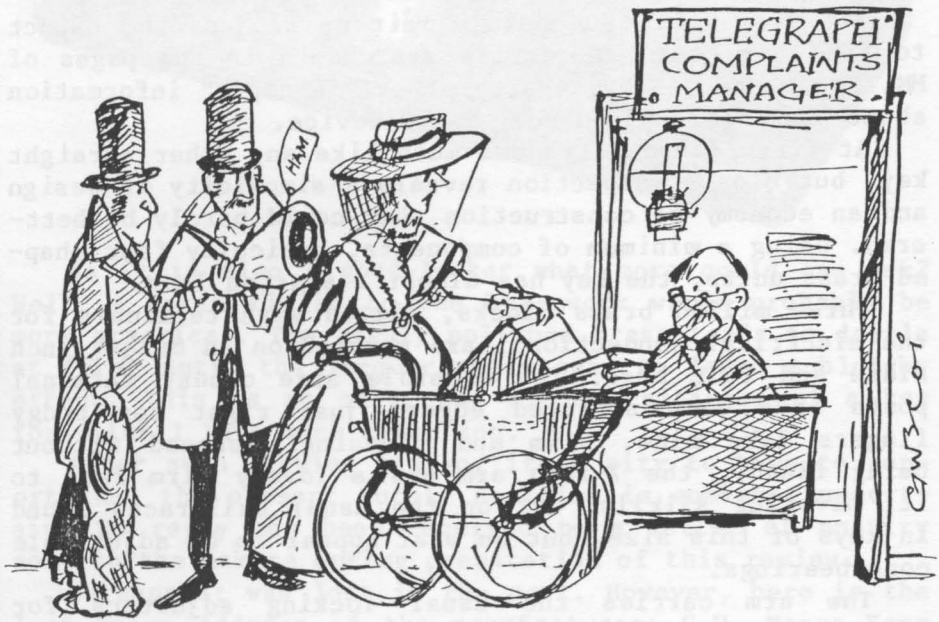
Over and over again jaded railway officials have been caused fruitless searches after a missing "black boy" through this want of power, on the part of the telegraph, to discriminate between "y" and "x".

The stories on this point are numerous, but the best I have yet heard is the following:- Some time ago a station-master received a telegram from a lady, stating that she had left at his station "two black boys" in the waiting room, she believed, and tied together with red tape; would he please forward them at once. The astonished official caused search to be made; but instead of "boys" he found two "boxes" in the waiting room, as described, which were duly forwarded.

From a similar cause on the part of the electric fluid, a lady received from her son-in-law a telegram which astonished her not a little. It stated that his wife had presented him with a "fine box".

Reprinted in THE TELEGRAPHIC JOURNAL, October 15, 1876

(* F.I. Scudamore, was Assistant Secretary of the Post Office, and responsible for the 1866 report which led to the nationalisation of Britain's telegraphs in 1870. Ed.)



"... PRESENTED HIM WITH A FINE BOX..."

The G.W. Key

LARRY ROBINSON, GOHTR.

Unlike previous keys reviewed in MM, the G.W. Morse key comes fully assembled so, at first, my task as reviewer seemed simple. The key is uncomplicated and, as the photograph clearly shows its construction, all that is required of me is a description of its performance. An easy task as one word would suffice - superb!

All very well, but hardly fair on readers who expect to find more than subjective statements in the pages of MM. Hence the following attempt at "in-depth" information about what is really a very basic device.

At first glance it seems much like any other straight key, but closer inspection reveals a simplicity of design and an economy of construction that could hardly be bettered. Using a minimum of components, basically four shaped brass units, the key has almost a spartan look.

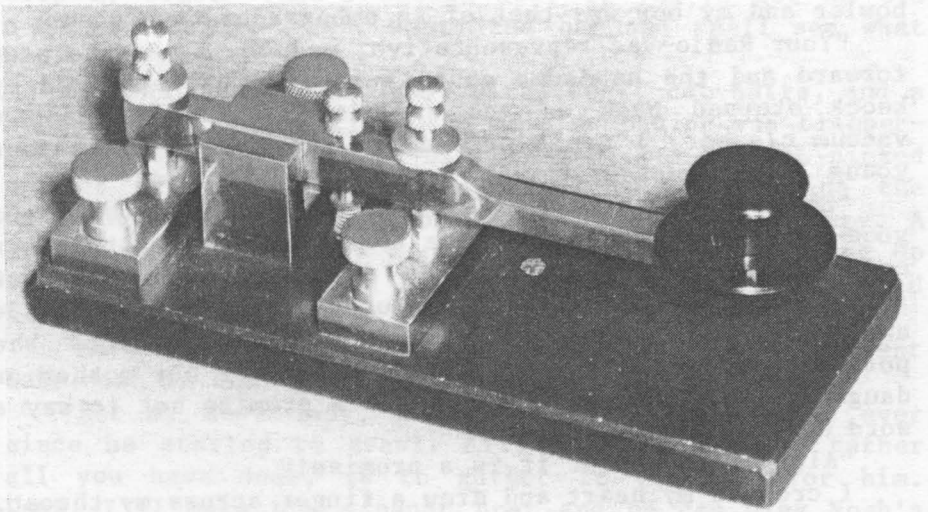
Three milled brass blocks, fitted with terminals for the electrical connections, are mounted on an 8x3½x½ inch slate and felt base. The sensible size chunky terminal posts have deep serrated edges, just right for podgy fingers like mine. Slim and pleasingly shaped without being flashy, the 7-inch arm has a lovely firm feel to it, pivoting silkily, not on the usual ball-races found in keys of this size, but on what appear to be adjustable cone bearings.

The arm carries the usual locking adjusters for tension and travel, and again these are sensibly sized

and serrated for easy grip. The two-section black operating knob contains the only plastic used in the key.

All the brass parts are finished to a high standard, being beautifully polished and coated with clear lacquer. The result is a sturdy and well balanced mechanism which weighs just 3 lbs (1.361 kg).

What more can be said except that after more than 12 months use in the GOHTR shack my feeling is that whoever designed this key knew what he was about. Engineers tell us that if a mechanism looks right and feels right then it probably is right. It is certainly true in this case. The key not only does a first-class job in translating my shaky fist, but does it cleanly, with ease, and reasonably quietly.



As it is also a good-looker what more could one ask? Well, a satin finish to the brasswork would probably be more practical. The highly polished brass tends to dazzle at first until the lacquer wears away to leave a blotchy effect. This is my only, and minor, criticism of a key for which I have much affection.

After such glowing praise, its a pity to have to report that the present supply position is somewhat uncertain. No reply has been received to a letter of enquiry sent to the makers during preparation of this review.

Perhaps it was lost in the post. However, here is the last known address of the manufacturer: G.W. Morse Keys (J. Wilkes), Cefndy Works, Cefndy, Rhyl, Clwyd, Wales.

BARTER ~ circa 1925

JOHN LINGARDS SYKES, G3SRK.

THE DOOR OPENED. Surreptitiously my foot slipped forward to prevent it closing again. A smile lit up my face from ear to ear and from chin to hairline, until it must have looked like a full moon pretending to be the sun. One of my well scrubbed hands raised my well brushed bowler and my bow was that of an ambassador to a queen.

"Your Radio-Vac representative, madam". I made to step forward and the handsome young woman who had answered my knock stepped back as she exclaimed, "I don't want a vacuum cleaner. I can't afford one and I said so to your young lady canvasser."

"So Miss Carruthers told me. She is a sensitive and good-hearted creature, but she sometimes forgets that our company merely requires us to demonstrate our product safe in the knowledge that no housewife who has been made aware of its merits will ever rest easy until she possesses one, and has acquired another for her mother or daughter. Just let me show you and I promise not to say a word about purchase."

"Alright then, but it is a promise!"

I crossed my heart and drew a finger across my throat. A pact was sealed and I would keep it. After all, there are more ways of killing a cat than choking it with cream.

By this time we had reached the living room. My heart leapt with joy. It was carpeted and a small child was crawling across the floor in hot pursuit of a scruffy looking cat. I was home and dry!

I removed my brand new Radio-Vac from its carton and proudly held it up for inspection.

"Isn't it a handsome piece of work? I don't know how the company does it for the money - it must be the huge number we sell. If you are wondering why we call it a radio-vac, the answer is simple. It is 'wire-less'. No

cord to trip over, no electricity bills and no electrocuted babies. Just glide it over the rug or carpet and the powerful fan sucks up dust and dirt like a cyclone sucks up trees and houses. Here, try it for yourself as I lift Junior into his high chair; we don't want him in the bag. Ha ha ha!

If my hand squeezed hers as I put it on the handle of her new toy it was quite accidental, as her answering smile acknowledged. I made myself comfortable beside the child, content to call out directions as seemed appropriate.

"Notice how it gets into the corners. Lower the handle and it will glide under the dresser and the settee!" At last the entire floor had been treated and it was time to drop my bomb. "That's enough now. If you've got an old newspaper handy I will empty the bag and we'll see what you've caught."

And what a catch it was! Dirt, dust, cat hairs, and a huge ball of carpet fluff. My fair companion was flabbergasted and just a little bit ashamed, but when I picked up her pride and joy and plonked him down beside the unsavoury mess her reaction changed to absolute fury. A scream was followed by a naughty word, as she caught up the child and smothered him with kisses. Shortly she had a word for me.

"Have you gone completely mad, putting an innocent babe down in that filth? You want your head read."

"But my dear lady, he has been playing in it ever since he started to crawl. All we have done, or rather all you have done, is to gather it together for him. Look, I'll make him a paper boat and he can play Noah's Ark. There are more wee beasties on that newspaper than Noah or old Charlie Darwin ever dreamed of. Would you like to look through my pocket microscope?"

Hushing the child to her breast while crooning sweet nothings, he soon fell asleep and was laid in his cot. I had started to re-pack my machine, when the erstwhile virago seemed to see the funny side of our situation and burst out laughing.

"You and your Charlie Darwin! From what I've seen of his picture, not even his mother would have dared to call him Charlie. My name is Doris, What's yours? Jack? That's a nice name, but you oughtn't to be selling vacuum cleaners."

"...PLONKED HIM DOWN BESIDE THE .....MESS...."

I explained that I was really a radio officer who had been placed on three month's leave without pay and my present job was a stop-gap and better than being on the dole. In another few weeks I expected to be back at sea.

"Oh good. Don't take away the Radio-Vac; I'll have it. I think I may have enough for the deposit upstairs. Come and help me look for it and then I'll make you a nice cup of tea."

An hour later we still hadn't found it, but the tea was very refreshing. The deposit would have to come out of my commission.....

I was a novice at the game, ignorant, but prepared to learn.

Jack.

oooo000oooo

INFORMATION WANTED

What is a "Norddeich key"? If any reader has information on this key please write to the editor.

Wireless

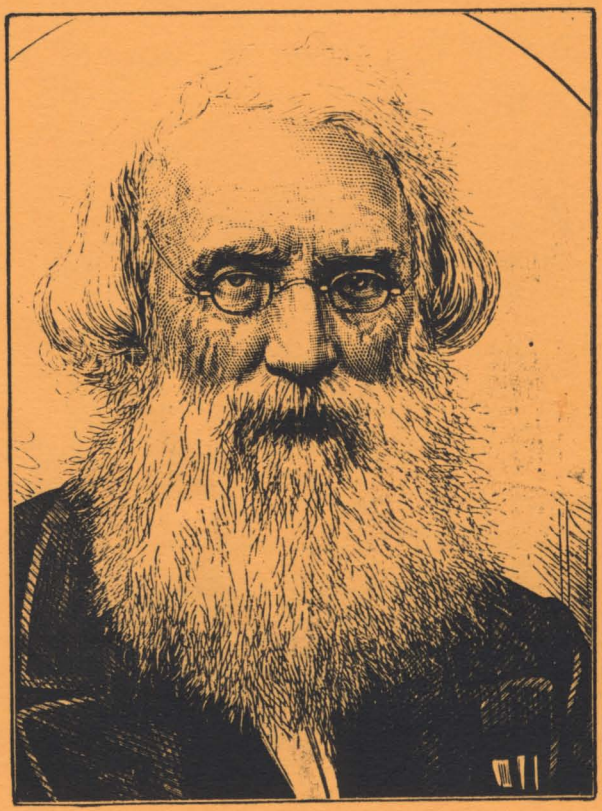
WIRELESS - meaningless - save that we know
That another man in a far-away land
Stands by the side of a gibbering spark,
Punching his message into the dark.

Into the dark of a summer's night,
And around the world and into the light
Of our brilliant winter day
Speeds the vibrant, quivering ray.

And, caught in a web of sky-flung wires,
Sinks to earth - chatters - expires;
But before it dies, skillful hands of man
Have torn from its soul a marconigram.

K.G. Martin.

(Wireless Age - June 1914)



Samuel Finley Breese Morse